

CLAIMS:

1. A method of analyzing the correctness of an output signal, the method comprising the steps of:

- receiving the output signal, the output signal being obtained from signal transformation of an input signal,
- 5 - receiving a first robust feature, the first robust feature being derived from said input signal,
- deriving a second robust feature from the output signal; and
- identifying a degree of similarity between said first robust feature and said second robust feature.

10 2. A method as claimed in claim 1, further comprising the step of:

- correcting the output signal into a corrected signal in dependence on said degree of similarity.

15 3. A method as claimed in claim 1 or 2, further comprising the steps of:

- encoding the input signal into an encoded signal; and
- transmitting the encoded signal and the first robust feature.

20 4. A method as claimed in any of the preceding claims, further comprising the steps of:

- receiving an encoded signal;
- decoding said encoded signal into an output signal.

25 5. A method as claimed in claim 3 or 4, further comprising the step of embedding the first robust feature into the encoded signal through watermark technology.

6. A method as claimed in any of the preceding claims, characterized in that for each of said input and output signals, a robust feature is derived by:

- splitting an information signal in successive time intervals; and

- computing a hash value from a scalar property or vector of properties of the information signal within each time interval.

7. A method as claimed in any of the preceding claims, characterized in that in each of said time intervals, a hash value is computed by

- transforming the information signal within the time interval into disjoint bands;
- calculating a property of the signal in each of said bands;
- comparing the properties in the bands with respective thresholds; and
- representing the results of said comparisons by respective bits of the hash (sample) value.

8. A method as claimed in claim 7, wherein the bands are frequency bands having an increasing bandwidth as function of the frequency.

9. A method as claimed in claim 7, wherein said property is the energy of a band.

10. A method as claimed in claim 7, wherein said property is the tonality of a band.

11. A method as claimed in any of the preceding claims, characterized in that the transformation is a lossy transformation.

12. A method as claimed in any of the preceding claims, characterized in that the method further comprises the steps of:

- a) calculating from the input signal a first block of subsequent hash values corresponding to a first time interval;
- b) calculating from the output signal a second block of subsequent hash values corresponding to a second time interval, at least partially overlapping said first interval;
- c) selecting one hash value from one of said first and second blocks of hash values;
- d) searching for said hash value in the other one of said first and second blocks of hash values;

e) calculating a difference between the first and second blocks of hash values in which the hash value found in step (d) has the same position as the selected hash value in the other one of said first and second blocks;

f) repeating steps (c)-(e) for a further selected hash value until said difference is lower than a predetermined threshold or until the number of hash values to be selected is lower than a predetermined threshold;

g) concluding to a correct operation of said signal transformation if the difference is lower than a predetermined threshold or concluding to a false operation of said signal transformation if the number of hash values to be selected is lower than a predetermined threshold.

13. A method according to claim 12, wherein the further selected hash value is another hash value of the first block of hash values.

14. A method according to claim 12, wherein the further selected hash value is obtained by reversing a bit of the previously selected hash value.

15. A method according to claim 14, further comprising the steps of receiving information indicative of the reliability of the bits of the selected hash value, and using said information to determine whether to use the selected hash value.

16. A method according to claim 14, further comprising the steps of receiving information indicative of the reliability of the bits of the selected hash value, and using said information to determine the bit to be reversed.

17. A receiver, comprising:

- means for receiving an output signal, the output signal being obtained from signal transformation of an input signal,
 - receiving means for receiving a first robust feature, the first robust feature being derived from the input signal;
 - analysing means for deriving a second robust feature from the output signal;
- and

- comparing means for identifying a degree of similarity between said robust feature and a second robust feature derived from an input signal so as to obtain a similarity signal.

5 18. A receiver according to claim 17, further comprising correcting means for correcting the output signal into a corrected signal in dependence of said similarity signal.

19. A receiver according to claim 17 or 18, characterized in that the receiver further comprises

10 - receiving means for receiving an encoded signal from a transmitter,
- decoding means for transforming the encoded signal into the output signal.

20. A transmitter, suitable for transmitting encoded signals to be received by the receiver according to claim 19, comprising:

15 - analyzing means for deriving a first robust feature from an input signal;
- encoder means for encoding the input signal into an encoded signal; and
- transmitting means for transmitting the encoded signal and the first robust feature.

20 21. A data carrier, comprising a data channel corresponding to a multimedia signal and a data channel corresponding to a robust feature associated to said multimedia signal.